

ERDELYI, Mihaly, dr.

Geomorphological observations in the area of Dunafoldvar, Solt and  
Izsak. Foldrajzi ert 9 no.3:257-276 '60. (EEAI 10:4)  
(Hungary--Geomorphology)

ERDELYI, Mihaly, dr.

Geomorphological observations in the area of Duna-földvár, Solt and  
Izsák. Földrajzi értekezés no. 3: 257-276 '60.

ERDELYI, Mihaly

Hydrogeology of Hajdusag, a region in Hungary. Hidrologiai  
Kozlony 40 no.2:90-105 Ap '60.

1. Magyar Allami Foldtani Intezet, Budapest.

ERDELYI, Mihaly, dr.

Hydrogeology of Outer Somogy County. Hidrologiai kozlony  
41 no.6:445-458 D'61

ERDELYI, Mihaly, dr.

Hydrogeology of Outer Semogy region. Hidrológiai Közlemény 42 no.1:  
56-63 F '62.

ERDELYI, Mihaly

Changes in the Lake Balaton and its environment due to human activities. Hidrologiai kozlony 43 no.3:219-224 Je '63.

1. Vizgazdalkodasi Tudomanyos Kutato Intezet, Budapest.

ERDELYI, M.

Tracing of the subsurface and fault lines of sedimentary lowlands  
by using indirect geological methods. Acta geol Hung 8 no.1/4:  
365-376 '64.

1. Research Institute for Water Resources, Budapest.

ERDELYI, Mihaly, dr.

Hydrogeology of Ghana. Hidrologiai kozlony 44 no. 2:61-66  
F '64.

1. Scientific Research Institute of Water Resources  
Development, Budapest.



ERDELYI, Mihaly, dr.

Data on water exploration in West and Central Africa.  
Hidrologiai közlony 44 no.5:233 My '64.

VAGAS, Istvan; ERDELYI, Mihaly, dr.; ERDI, Sandor; FRATER, Lorant;  
VITALIS, Gyorgy, dr.; RONAI, Andras, dr.

Possibilities for irrigation by driven wells in Nograd County.  
Hidrologiai kozlony 44 no.6:254-260 Jo '64.

1. Editorial board member, "Hidrologiai Kozlony" (for Vagas,  
Erdelyi, Vitalis).

ERDELYI, R.

~~Nei and their treatment.~~ Bratisl.lek.listy 31 no.3-4:252-257 1951.  
(CML 21:1)

1. Of the Clinic of Plastic Surgery of Charles University, Prague.

ERDELYI, Robert

Symptomatology and clinical aspects of hyposadias. Cas.lek.cesk.  
91 no.37:1069-1072 12 Sept 52.

1. Z kliniky plastickej chirurgie Karlovej univerz. v Prahe. Pred-  
nosta: prof. dr. Fr. Burian.  
(HYPOSPADIAS,  
clin. aspects & sympt.)

ERDELYI, Robert

Result of surgery of 104 cases of hypospadias. Cas. lek. cesk.  
91 no.52:1556-1559 26 Dec 52.

1. Z kliniky plastickej chirurgie Karlovej university v Prahe,  
Prednosta: prof. dr. Fr. Burian.  
(HYPOSPADIAS, surgery  
results)

ERDELYI, Robert

Post-traumatic deformities of the nose. Cesk. otolar. 5 no.3:  
176-178 May 56.

1. Z oddelenia plastickej chirurgie fakultnej nemocnice v  
Kosiciach. Prednosta MUDr. R. Erdelyi.

(WOUNDS AND INJURIES,  
nose, deforming (Cs))

(NOSE, wounds and injuries,  
deforming (Cs))

EXCERPTA MEDICA Sec 10 Vol 12/8 Obstetrics Aug 59

1365. THE INFLUENCE OF TOXOPLASMOSIS ON THE INCIDENCE OF CON-  
GENITAL FACIAL MALFORMATIONS. PRELIMINARY REPORT -  
Erdélyi R. Clin. of Plast. and Reconstructive Surg., Univ. of Košice,  
Czechoslovakia - PLAST. RECONSTR. SURG. 1957, 20/4 (308-310)

The SF test performed in 61 mothers who had had children with cleft palate or  
harelip showed a positivity which was 2 times that for a control group. The toxo-  
plasmin test was positive in 66% of these mothers and in 11% of the general popu-  
lation. Pavlák - Brno (L, 7, 10)

ERDELYI, R.

Significance of transplants of cartilage, fat & corium in the reconstruction of the face. Acta chir. orthop. traum. cech. 25 no.5:382-389 Sept 58.

1. Oddelenie plastickéj chirurgie FN v Kosiach, prednosta kand. lek. vied dr. R. Erdelyi.

(SKIN TRANSPIANTATION

cartilage, corium & fat transpl. in reconstruction of face (Cz))

(FACE, surg.

reconstruction by cartilage, corium & fat transpl. (Cz))



ERDELYI, R.

Local skin transfers. Acta chir. plast. 1 no.2:104-114 1959.

1. Department of Plastic Surgery, University Hospital Kosice  
(Czechoslovakia); Director: Dr. R. Erdelyi, Cand. Med. Sci.  
(SKIN TRANSPLANTATION)

ERDELYI, Robert

Carcinomas of the cicatrix following thermal burns and their therapy by plastic operations. Acta chir. orthop. traum. cech. 26 no.4:328-333 Aug 59.

1. Oddelenie plastickej chirurgie fakultnej nemocnice v Kosiciach, prednosta kand. lek. vied dr. R. Erdelyi.

(BURNS, compl.) (CICATRIX, neoplasms)

(CARCINOMA, surg.) (SKIN TRANSPLANTATION)

ERDELYI, R.

The surgical treatment of saddle nose. Acta chir.plast. 2 no.3:  
190-196 '60.

1. Department of Plastic Surgery, Faculty Hospital, Kosice  
(Czechoslovakia). Director: R. Erdelyi, M.D., C.Sc.  
(NOSE abnorm)

GRAL, T.; ERDELYI, R.

Congenital adrenogenital syndrome. Rozhl.chir.39 no.11:744-747  
N°60.

1. Interna klinika LFUK Kosice, prednosta doc.dr. F.Por  
Oddelenie plastickej chirurgie KUNZ Kosice, prednosta kand.vied  
dr. R.Erdelyi.  
(ADRENOGENITAL SYNDROME case reports)

ERDELYI, R.

Macroscopic and microscopic changes in small articular autografts in dogs. Folia biol. 7 no.5:353-358 '61.

1. Faculty Hospital, Department of Plastic Surgery, Kqsice.  
(JOINTS transpl)

ERDELYI, R.; KUNSTADT, E.

Roentgenological findings in autografts of small joints in dogs.  
Acta chir. orthop. trauma. Cech. 28 no.4:311-322 Ag '61.

1. Oddelenie plastickej chirurgie fakultnej nemocnice v Kosiciach,  
prednosta C.Sc. dr. R.Erdelyi Radiologicka klinika lekarskej fakulty  
univerzity J.P.Safarika v Kosiciach, prednosta doc. dr. E.Kunstadt.  
(JOINTS transpl.) (TRANSPLANTATION experimental)

ERDELYI, R.

Mobilization of damaged finger joints with transplanted toe joints.  
Acta chir. orthop. traum. cech. 29 no.6:489-497 D '62.

1. Oddelenie plastickej chirurgie Fakultnej nemocnice v Kosiciach,  
prednosta MUDr. R. Erdelyi, CSc.  
(FINGER INJURIES) (JOINTS) (TRANSPLANTATION) (TOES)

ERDELYI, R.

Histological and clinical picture of transplanted joints in experimental conditions. Acta chir. orthop. traum. cech. 29 no.6:498-502 D '62.

1. Oddelenie plastickej chirurgie Fakultnej nemocnice v Kosiciach,  
prednosta MUDr. R. Erdelyi, CSc.  
(TRANSPLANTATION) (JOINTS)



ERDELYI, R.

Ninhydrin test as an objective method of determining the sensitivity of the hand. Acta hir. orthop.traum. cech. 30 no.6:445-449 D'63.

1. Odd. plastickej chirurgie Fakultnej nemocnice v Kosiciach, veduci MUDr. R.Erdelyi, CSc.

★

ERDELYI, R.

Rare congenital scalp abnormality treated by plastic surgery.  
Acta chir. orthop. traum. cech. 31 no.6:481-484 D '64.

1. Oddelenie plastickej chirurgie Fakultnej nemocnice v  
Kosiciach, (veduci MUDr. R. Erdelyi, CSc.).

NEUBAUER, E.; KLIVANOVA, H.; ERDELYI, R.; KIFIKASA, A.

Tissue metabolism in the atrophied dog kidney from the view-  
point of gluconeogenesis in vitro. Cas. lek. cesk. 104 no.3:  
76-79 22 Ja '65

1. I Interna klinika Lekarskej fakulty University P.J.  
Safarika v Kosiciach (prednosta - prof. dr. Por) a Klinika  
plastickej chirurgie Lekarskej fakulty University P.J.  
Safarika v Kosiciach (prednosta - MUDr. I. Erdelyi, CSc.)

ERDELYI, Stepan, MUDr; Kralove Hradec

Care of small plants. Pracovni lek. 7 no.4:243-245 Jy '55.

(INDUSTRIAL HYGIENE

in Czech., care of small plants)

ERDELYI, Stepan, MUDr.

Basic principles of prevention of absenteeism. Cesk. zdravot.  
4 no.11:665-672 Nov 56.

1. Pojistovací lékař KOR--Hradec Kralove.  
(INDUSTRY AND OCCUPATIONS,  
absenteeism prev. (Cz))

ERDELYI, Stepan

Rural health districts and their relation to rural socialization. Cesk.  
zdravot. 7 no.4:173-180 May 59.

1. Lekar krajske odborove rady v Hradei Kralove.

(RURAL CONDITIONS,

socialization in Czech., organiz. of health districts (Cz))

(PUBLIC HEALTH,

health districts, relation to rural socialization in Czech. '  
(Cz))

ERDELYI, T.

Reconstruction of the baggage office of the Hatvan railroad station. p. 369.  
(KOZLEKEDESTUDOMANYI SZEMLE. Vol. 6, no 10, Oct. 1956. Hungary)

SO: Monthly List of East European Accessions (EEAL) LC, Vol. 6, no. 6, June 1957. Uncl.

*ERDELYI, T.*

HUNGARY/Cultivated Plants - Fruits and Berries.

M-5

Abs Jour : Ref Zhur - Biol., No 3, 1958, 10956

Author : Erdelyi, T.

Inst :

Title : Fertilization of Fruit Tree.

Orig Pub : Kerteszeti es Szoleszeti, 1957, 6, No 2, 6.

Abstract : No abstract.

Card 1/1

4



100-170, 1100, 100-170, 1100, 100-170, 1100

Modern railroad terminal at port. Kori built in 10:473-475  
0-164.

1. Division Chief, No. 1 Department of Railways, Ministry of Trans-  
portation and Social Affairs, Budapest.

HUTAS, Zsuzsanna, dr.; ERDELYI, Teresia, dr.

Effect of unfavorable domestic conditions on repeated hospitalization and mortality of children. Gyermekgyógyászat 11 no.11: 336-340 N '60.

1. Pécsi Orvostudományi Egyetem Gyermekklinikájának közleménye.  
(PEDIATRICS)

ERDELYI, Tibor, okleveles építész-mérnök

Modern passenger terminal buildings. Kozl tud sz 13  
no.6:258-262 Je '63.

1. Közlekedés- és Postaügyi Minisztérium I. Vasúti Főosztálya  
osztályvezetője.

ERDELYI, Z.

Haulage of wood in the forests of the Bernecebarat area; a Roumanian sled.  
p. 381.

ETHNOGRAPHIA. (Magyar Neprajai Tarsasag) Budapest, Hungary. Vol. 69, no. 3,  
1958.

Monthly List of East European Accessions (KEAI), LC, Vol. 8, no. 7, July 1959  
Uncl.

ERDELYI, Zsafia, okleveles mernok, tervezo

Parking situation in Budapest. Kozl tud sz 13 no.7:292-297  
Jl '63.

1. Fovarosi Tervezo Vallalat.

ERDELYI, 2

[REDACTED]

Erdeelyi, University Instructor (Adjunct), Director of the  
Department of Agricultural Cooperation in the Agricultural  
Department.

Erdeelyi is a member of the University of Veterinary Medicine of  
Budapest and is a member of the Hungarian Academy of Sciences.

Erdeelyi, University Instructor (Adjunct), Director of the  
Department of Agricultural Cooperation in the Agricultural  
Department.

Erdeelyi: The author states that this patroling was involved not  
only in the search for and capture of the enemy, but also in  
the provision of medical, cultural and political assistance as well.  
The names of those who took part in this cooperative effort are given.  
Erdeelyi also mentions the names of those who were killed in the  
patroling.

[REDACTED]

ERDELYSZKY, Zsigmond; KLOPPER, Ervin; KOSTKA, Pal; PASZTOR, Endre

An electrostatic accelerator of the Budapest University of  
Technical Sciences serving educational purposes. Koz fiz kozl  
MTA 10 no.2:113-122 '62.

ERDELYSZKY, Zs. (Budapest, XI., Budafoki ut 8); UBELL, K. (Budapest, VIII., Rakocai ut 41)

Experiments for determining the variations of groundwater flow velocity with depth. Periodica polytechn electr 6 no.3:205-217 '62.

1. Department for Nuclear Physics, Technical University, Budapest, and Research Institute for Water Resources, Budapest. Presented by prof. dr. I. Kovacs.



ERDELYVARI, Istvan

Soft gamma-ray absorptiometer for radiation safety measurements.  
Koz fiz kozl MTA 10 no.4:305-314 '62.

ERDEN

HUNGARY / Physical Chemistry. Thermodynamics. Thermo-chemistry, Equilibriums, Phys. Chem. Analysis, Phase Transitions. B

Abs Jour: Ref Zhur-Khimiya, No 16, 1958, 52927.

Author : Erden, Paulik, Paulik.  
Inst : Akad. Kem.  
Title : Differential Thermogravimetry.

Orig Pub: Magyar tud. akad. Kem. tud. oszt. kosl, 1955, 7,  
No 1, 55-89, Hozzaszolasok, 90.

Abstract: A method of differential thermogravimetry (DTG) is described which is carried out by means of a device recording simultaneously a curve of the weight loss in respect to the temperature and its

Card 1/4

HUNGARY / Physical Chemistry. Thermodynamics, Thermo- B  
chemistry, Equilibriums, Phys. Chem. Analysis,  
Phase Transitions.

Abs Jour: Ref Zhur-Khimiya, No 16, 1958, 52927.

Abstract: Zn anthranilite, and samples of solid fuels are  
furnished. More detailed studies were made on the  
hydroxides of aluminum ( $\text{Al}_2\text{O}_3 \cdot \text{NH}_2\text{O}$ ) hydrargillite  
(synthetic and Istrian), boemite, amorphous gels  
prepared by precipitation with  $\text{NH}_3$  from the sulfate,  
nitrate or chloride of aluminum, from aluminate by  
 $\text{HNO}_3$ ,  $\text{CO}_2$  or hydrolysis. A gel precipitated from  
nitrate and chloride when investigated by X-ray  
analysis was found to be crystalline (bayerite with  
an admixture of boemite). A chart is given for the

Card 3/4

ERDENKO, I.

Unforgettable encounter. Prof.-tekhn.obr. 13 no.3:6 Mr '56.  
(Technical education) (MLBA 9:7)

ERDENKO, I.

This will be in the House of Culture. Prof.-tekh.obr. 17  
no.2:27 F '60. (MIRA 13:6)

1. Nachal'nik otдела kul'turno-massovoy raboty TSentral'nogo doma  
kul'tury uchashchikhsya professional'no-tekhnicheskikh uchebnykh  
zavedeniy.

(Student activities)

ERDESH, P.(Vengriya); YAGLOM, I.M.; DEPMAN, I.Ya.

News on mathematics. Mat.pros.no.6:315-327 '61.  
(Mathematics--Curiosa and miscellany)

(MIRA 15:3)

ERDŐSZ, Edé

Some significant industry problems. Munka 15 no.3:22-23  
No 165.

1. Trade Union of Iron and Metal Industry Workers, Budapest.

ERDESZ, Sandor; GROBLER, Andras

Determination of calcium, magnesium and phosphate ions in the presence of each other. Magy kem lap 15 no.3:138-139 Mr '60.

1. Erotakarmanygyar.



ERDESZ, Tiborne; VARGA, Alajosne, foelando

Spreading of television and its effect. Stat szemle 42 no.10:  
975-989 0 '64.

1. Division Chief, Central Statistical Office, Budapest (for  
Erdesz). 2. Central Statistical Office, Budapest (for Varga).

ERDEY Gruz, Tibor, dr., Kossuth-díjas akadémikus, egyetemi  
(Budapest)

States of matter. Pt. 1. Term tud kozl 8 no. 2: 56-58  
F '64.

TARDOSH, L. [Tardos, L.]; ERDEY, I. [Erdei, I.]

Pharmacological data on the compound p-chloro-benzene sulfo-  
cyclohexylcarbamide. Farm. 1 toks. 25 no.1:93-98 Ja-F '62.

(MIRA 15'4)

1. Farmakologicheskaya laboratoriya farmatsevticheskogo zavoda  
"Khinoin", Budapesht.

(UREA)







ERDEY, L.

3. The use of ascorbic acid in analytical chemistry: the direct determination of chlorate ions. *Aszkorbinsav alkalmazása az analitikai kémiaiban: Klorationok közvetlen meghatározása* — by L. Erdey and E. Bodor. (Hungarian Journal of Chemistry — Magyar Kémiai Folyóirat — Vol. 57, No. 3, pp. 78-84, March 1951, 4 figs., 11 tabs.)

A new direct method has been elaborated for the determination of chlorate, based on the catalytic effect of selenious acid, on the reaction of ascorbic acid and chlorate. The actual determination process begins with the acidification of the solution to be tested with sulphuric acid. One hundred ml of solution should contain such a quantity of sulphuric acid that at the termination of titration the acid concentration will attain about 4.0 N, and the volume of the solution will be exactly 100 ml. The acidified chlorate solution is heated to at most 60 C°, 10 ml of an 0.1 M solution of selenious acid and 5 ml of a 20 per cent solution of manganese (II) sulphate are added; thereafter, titrated first quickly, then slowly with an 0.1 N solution of ascorbic acid until an orange colour is clearly visible. The results of the determination showed a + 0.10 per cent deviation from the theoretical values. Among foreign ions only Br-, J- and good deal of NO<sub>3</sub>- or ClO disturb the reaction. In practice the method is highly efficient for the determination of the decomposition in commercial or stored hypochlorite solutions and preparations.

①

(A) 2

Ascorbinometric determination of chlorate. László  
Fény and Rózi Bóler (Tech. Univ., Budapest) /  
Anal. Chem. 133, 285-7 (1961) See C.A.B. 45, 10137a  
W. F. Hall



CA

**Determination of iodate and iodide with ascorbic acid.**  
 Laszlo Erdely, Endre Bodor, and Ilona Buzás (Tech. Univ., Budapest). *Z. anal. Chem.* 134, 22-32 (1951).  
 Three mols. of ascorbic acid,  $C_6H_8O_6$ , react with 1 mol. of  $IO_3^-$  to form  $I^-$  and  $3CO_2$ . The reaction can be followed potentiometrically. In the titration curve, 2 inflection points are noted, one corresponding to the reduction of  $IO_3^-$  to  $I_2$  and the other to  $I^-$ . If the  $I^-$  is bound by the formation of a complex, such as  $HgI_2$ , the reaction of  $I_2$  with  $IO_3^-$  is prevented. The addn. of  $HgSeO_4$  accelerates the desired reaction. The best procedure is: To the neutral soln., add 10 ml. of 0.1 N HCl, 10 ml. of 0.1 M  $HgSeO_4$ , 15 ml. of satd.  $HgCl_2$  soln., and water to make 100 ml. Titrate carefully with 0.1 N ascorbic acid soln. The titration can serve for the detn. of  $I^-$  or  $I_2$  after oxidation of these to  $IO_3^-$ . The reaction is disturbed by the presence of  $P^{3+}$  and the results are low in the presence of  $NO_3^-$  or  $SO_4^{2-}$ . Ag, Pb, Bi, considerable Fe, arsenate, and Ba salts interfere.  
 W. T. Hall

CA

7

Ascorbic acid in analytical chemistry. Determination of  
ferrie ions. László Erdey and Endre Bodor (Tech. Univ.,  
Budapest). *Anal. Chem.* 26, 418-20 (1952).—See C.A. 40,  
1135c. H. L. M.

Hungarian Technical Abst.  
Vol. 5 No. 2  
1953

546.147:543.7  
5. Ascorbimetric determination of bromate ions -  
*Bromátionok aszkorbimétriai meghatározása* - L. Erdőy  
E. Bodor and L. Pap. (Hungarian Journal of Chemistry  
- *Magyar Kémiai Folyóirat* - Vol. 58, No. 5, May 1952,  
pp. 129-132, 8 tabs.)  
Bromate ions were determined volumetrically with  
a solution of ascorbic acid of a known concentration in a  
mildly acid medium (0.2 to 0.5 N) in the presence of a  
selenic acid catalyst. Mercuric (II) chloride was added to  
the solution in order to transform the bromide ions formed  
by the reduction of bromate ions into stable, not easily  
disassociating complex compounds; the end point of the  
reaction is indicated by a calomel precipitate. Overtitra-  
tion may be avoided by the presence of manganese sul-  
phate as well as by slowing down the titration near the  
end point. Determinations should be made at room tem-  
perature. The effect of several foreign ions was investigated  
from the standpoint of the practical applicability of the  
method. L. Erdőy

ERDEY, L.

3

Hungarian Technical Abst.  
Vol. 5 No. 2  
1953

669.231.017:546.36:544.83

21. Determination of small amounts of copper in platinum with dithizone - *Kismennyiségű réz meghatározása platinaon ditionnal* - L. Erdely, Gy. Hidy and E. Bányai (Hungarian Journal of Chemistry - *Magyar Kémiai Folyóirat* - Vol. 38, No. 6, June 1952, pp. 171-174, 4 figs., 1 tab.)

A method was evolved for the colorimetric determination of small amounts of copper in pure platinum with dithizone (diphenylthiocarbazone). A weighed platinum sample was dissolved in aqua regia and the disturbing effect of platinum (II) ions, freed during the concentration of the solution was eliminated through oxidizing with chlorine water to platinum (IV) ions. After having eliminated the excess chlorine, the copper was extracted by means of a carbon tetrachloride solution of dithizone. The light absorption of copper dithizonate was determined by a Pulfrich photometer. The method is suitable for the determination of 0.4 to 0.005 per cent copper in samples of 1.0 to 0.1 g.

L. Erdely

ERDEY, L.

Hungarian  
Technical Abst.  
Vol. 5 No. 4  
1953

12. The preservation of ascorbic acid measuring solutions--  
Aszkorbinsav reduktoetriás merooldat tartositása--L. Erdy and  
E. Bodor. (Hungarian Journal of Chemistry--Magyar Kémiai  
Folyóirat--Vol. 58, 1952, No. 10, pp. 295-298, 8 figs., 1 tab.)  
Variations in the effective value of ascorbic acid measuring  
solutions were examined under ordinary conditions in a carbon  
dioxide atmosphere, preserved with Trilon B (disodium salt of  
ethylenedinitrilo-tetraacetic acid) and stored at approx 6° C in  
a refrigerator. It was found that the minimum decrease in  
effective value occurred with a solution preserved with 0.5 g of  
Trilon B per liter and stored at 0° C. An easy-to-handle solution  
adequate for practical purposes, was obtained by the addition of  
formic acid besides Trilon B. This solution can be stored at room  
temperature and the decrease in its strength does not exceed  
1 per cent per day.

E. Bodor

MF  
9-14-52

ERDEV, L.

Chemical Abst.  
Vol. 48  
Apr. 10, 1954  
Analytical Chemistry

/Microchemical determination of gold. Ladislav Krivy  
and George Rado (Zech. Univ., Brno, Czechoslovakia). Z. Anal. Chem. 135, 1-10 (1952).—Instead of the usual dry assay for Au, it is  
recommended to make use of the sensitive dithizone test  
after dissolving the sample in acid and evap. The Au  
content can be estd. colorimetrically or titrimetrically by  
adding a standard  $AuCl_3$  to the soln. contg. excess dithizone  
until the green color changes to yellow. It can also be detd.  
with a dithizone soln. of known content, added until the  
green color is obtained. W. T. Hall

Erdey, L.


Method and apparatus for the destruction of organic substances. L. Erdey and L. Jankovits (Tech. Univ., Budapest). *Acta Chem. Acad. Sci. Hung. 3*, 57-62 (1953) (English summary).—The method is suitable for org. substances contg. small amts. of fat. The destruction is effected either with  $\text{HNO}_3$  or with alternating addns. of  $\text{HNO}_3$  and  $\text{H}_2\text{O}_2$ . A design, several examples, and a review with 27 references are given. P. Schosberger

Erdey, L.

2

14. Lucigenin as an acid-base indicator. Investigations in connection with a new luminescent indicator, I (In German). — L. Erdey, (Acta Chimica Academiae Scientiarum Hungaricae — Vol. 3, 1953, No. 1, pp. 81-94, 2 figs.)

Lucigenin (dimethyl diacridylum nitrate) has been found suitable as an acid-base indicator for use in volumetric analysis since, when alkalinised, its solution emits a green-coloured light in the presence of hydrogen peroxide. This is due to chemiluminescence. The first appearance or disappearance of luminescence in lucigenin can be observed at pH 9. The new indicator lends itself readily to titrations where a dye indicator of indicator exponent pH 9 can be applied. It is suited, moreover, for application in the titration of coloured, dark or turbid liquids thereby eliminating the use of methods requiring expensive apparatuses.





ERDEV, L.,

15. Mechanism of the alkaline decomposition of hydrogen peroxide. Investigations in connection with

a new luminescent indicator. II (In German) -- L. Erdev, (Acta Chemica Academiae Scientiarum Hungaricae, 1953, No. 1, pp. 95-103, 3 figs.)

Experiments in connection with the chemiluminescence of the lucigenin-peroxide system raised the problem of the alkaline decomposition of hydrogen peroxide. The electrolytical dissociation of hydrogen peroxide proved to be the primary cause of the decomposition  $H_2O_2 + H_2O \rightleftharpoons H_2O^+ + OOH^-$  where  $K$  is about  $10^{-11}$ . The peroxide anion which contains an oxygen with a looser bond probably reacts with the unchanged peroxide molecule due to an inductive effect. According to the investigations this reaction takes place at a maximum rate in a medium of pH 12 which corresponds to a 50 per cent dissociation. This observation confirmed the earlier assumptions on the decomposition of hydrogen peroxide and on the structure of the peroxide anion. In the decomposition of peroxide Trilon II proved to be an effective inhibitor.

ERDEY, L.

"Mechanism of the Chemiluminescent Indicator. 'Pt.3.' p. 105.  
(Acta Chimica Academiae Scientiarum Hungaricae, Vol.3, No.1, 1953,  
Budapest.)

SO: Monthly List of <sup>East European</sup> ~~Russian~~ Accessions, <sup>Vol.2, No.9</sup> ~~Library~~ of Congress, September 1953, Uncl.

ERDEY, L.

Rapid determination of zinc in the presence of proteins.  
L. Erdely, Gy. Rády, and L. Ráplár (Tech. Univ., Buda-  
pest). *Acta Chim. Acad. Sci. Hung.* 3, 315-22(1963)(in  
German).—The detn. of Zn by extn. of the dithizonate with  
CCl<sub>4</sub> is complicated by emulsion formation in the presence of  
proteins. If the layer is kept to a min vol., the emulsion is  
easily broken by adding strips of filter paper and completely  
absorbing the aq. layer. The CCl<sub>4</sub> layer is poured off and  
combined with CCl<sub>4</sub> washings of the strips to yield the soln.  
for the Zn detn. A photometric procedure and a titrimetric  
procedure are described for the Zn detn. In the latter pro-  
cedure a known amt. of dithizone is used in the reaction and  
the zinc is detd. by difference after the amt. of unreacted  
dithizone is measured by titration with a standard ZnSO<sub>4</sub>.  
These two procedures gave Zn analyses on several  
Zn insulin preps. in agreement with the results of the  
U.S.P. procedure. B. P. Block

ERDEY, L.

"Determination of Vanadium by Oxidizing the Measuring Solution. " Pt. 2, p. 469, Budapest,  
Vol. 3, no. 4, 1953.

SO: East European Accessions List, Vol. 3, No. 9, September 1954, Lib. of Congress

ERDEY, L.

(2) 5  
✓ Industrial importance of ascorbimetry. L. Erdely (Buda-  
pest Polytech. Univ.). *Zhur. Anal. Khim.* 8, 355-64  
(1953).—The use of ascorbic acid for detg.  $\text{Fe}^{++}$ , chlorates,  
iodates, bromates, phosphates, germanates,  $\text{V}^{++}$ , and  $\text{Ce}^{++}$   
is reviewed. M. Hosh

ERDEY, L.; RADY, GY.; KAPLAR, L.

Rapid method for determination of zinc traces in the presence of proteins. p. 151.  
(Magyar Kemiai Folyoirat, Budapest, Vol. 59, no. 5, May 1953)

SO: Monthly list of East European Accessions (EEAL), LC Vol 4, No. 6, June 1955, Uncl

ERDEY L.

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Determination of sulfur in sulfates by pyrogeic decomposition. L. Erdey and E. Imilik (Tech. Univ., Budapest). *Acta Chim. Acad. Sci. Hung.* 4, 37-53 (1954) (in German).-- Fusion of a sample contg. 0.15 g.  $\text{SO}_3$  at  $1000^\circ$  with 1.2 g. of anhydrous  $\text{NaPO}_3$  gives a quant. yield of  $\text{SO}_2$ . A special app. is described for absorbing the  $\text{SO}_2$  in 0.1%  $\text{NaClO}_2$  soln. The  $\text{H}_2\text{SO}_4$  can be estd. volumetrically or gravimetrically. Fluoride requires the addn. of  $\text{B}_2\text{O}_3$  to the melt and decompn. of  $\text{HBF}_4$  previous to detg.  $\text{SO}_2$ . Anions which yield volatile acids or anhydrides require excess  $\text{NaPO}_3$ . The method was applied to the sulfates of Ca, Sr, Ba, Mg, K, Na, Mn, and Cd, and to high furnace slag, coal ash, roasted pyrite, and superphosphate. K. G. Stone

ERDEY, L

ERDEY, L.; PAULIK, F.

Determination of the sulfur content of sulfates by means of pyrolysis. p. 57.  
(Koslemenyei, Budapest, Vol 4, no. 1/2, 1954)

30: Monthly list of East European Accessions (EEAL), LC Vol 4, no. 6, June 1955 Uncl



ERDEY, L.

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1344. Composition of the barium sulfate precipitate. L. Erdey and E. Pankó. *Acta Chim. Hung.* 1964, 6 (11) 97-110. Various types of  $\text{BaSO}_4$  were prepared under different conditions, beginning with accurately known quantities of  $\text{H}_2\text{SO}_4$  and  $\text{BaCl}_2$ . The ppt. obtained were weighed after drying and after ignition in the Grote-Krekelar apparatus. Loss on ignition and content of volatile ingredients were also determined and complemented by direct determination of  $\text{H}_2\text{O}$ . The composition of the ppt. depends greatly on the conditions of pptn. and on the quantity and nature of the anions and cations present. Hydrogen-ion concn. greatly affects crystal form and composition of pptn.  $\text{BaSO}_4$ . When the wt. of the ignited ppt. is corrected by a value corresponding to the quantity of volatile  $\text{H}_2\text{SO}_4$  expressed as  $\text{BaSO}_4$ , data closely approximating theoretical values are obtained, so confirming that variations in the composition and wt. of pptn.  $\text{BaSO}_4$  are chiefly due to the escape of volatile ingredients—primarily the volatile  $\text{H}_2\text{SO}_4$ . In a reversed pptn. the wt. of the ignited ppt. yields correct values. High H-ion concn. affects favourably the pptn. of  $\text{BaSO}_4$ . The composition of the ppt. approaches the theoretical value at pH 0 to 1, whereas the greatest differences are shown at pH  $\approx 2$ . In a neutral medium the ppt. shows a strikingly high water content. The crystal structure of the ppt. varies with variation in chemical composition. H. Warr

ERDEY, L.

1295. Ascorbimetric determination of silver ions.  
 L. Erdely and L. Buzar (*Acta Chim. Acad. Sci. Hungarica*, 6 (1954), 195-200).—A direct redoximetric method for the determination of  $\text{Ag}^+$ , which can be carried out with an error of  $\pm 0.01$  per cent., depends on titration with 0.1 N ascorbic acid in neutral or slightly acid solution in the presence of Variamin blue indicator. A solution containing 25 to 250 mg of  $\text{Ag}^+$  is diluted with water so that the final volume after titration is  $\approx 100$  ml. The solution is heated to  $60^\circ\text{C}$ , 0.1 to 0.5 ml of 1 per cent. Variamin blue is added and 0.1 N ascorbic acid soln. is run in until the blue colour disappears. A 20 per cent. w/v soln. of Na acetate is added until the blue colour reappears, and the titration is completed by adding further ascorbic acid soln. until the complete disappearance of the blue colour. The results agree well with those by the Volhard method. Substances giving a ppt. with  $\text{Ag}^+$  interfere, as do strong oxidising and reducing agents. Methods are described for eliminating these interferences. N. E. \

ERDEY, L.

HUNG :

505. Determination of small amounts of calcium with pyrazole blue. L. Erdey and L. Jankovics (*Acta Chim. Hung.*, 1964, 2 (2-4), 335-344).  
Picrolonic acid is the best pptg. agent for the determination of Ca in alumina, but with minute quantities of the element the colorimetric measurement of pptd. Ca picrolonate is difficult owing to the low value of extinction; it is preferable to convert the picrolonic acid into pyrazole blue. *Procedure*—The neutral calcium solution in a 15 to 20-ml centrifuge tube is constantly stirred and treated gradually with 0.01 N picrolonic acid (3 ml) and centrifuged after 24 hr. The ppt. is washed with water saturated with Ca picrolonate (1 ml). The united solutions are treated with 2 N H<sub>2</sub>SO<sub>4</sub> and ≈ 10 per cent. K<sub>2</sub>S<sub>2</sub>O<sub>8</sub> at 100° C for 5 to 10 min. and the pptd. pyrazole blue is extracted by chloroform from the cooled solution. The colour of the CHCl<sub>3</sub> solution is measured after 30 min. with a Pulfrich photometer and an S53 filter. Alternatively, the pptd. Ca picrolonate is dissolved in HCl soln. and oxidised to pyrazole blue, which is colorimetrically determined.  
H. Wynn

11/20/64

ERDEY, L

✓ Use of bromanilic acid in analytical chemistry colorimetric determination of calcium by bromanilic sodium. L. ERDEY AND L. JANKOVITS. *Acta Chim. Acad. Sci. Hung.* 4 (1954) 68 (1954) (in German). — In the investigation of the Ca impurities of alumina, the Na salt of the bromanilic acid was found to be suitable for the quantitative determination of calcium colorimetrically and also gravimetrically as the precipitate has a large molecular weight. The compound has a very deep color and small changes in Ca content cause intensive changes in color. The method takes only a few minutes (besides the time required for precipitation). Preparation of the reagent and of the test are given in detail with examples. 3 figures. Cf. *Ceram. Abstr.*, 1955, Feb., p. 38g.

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ERDEY, L.

HUNG

V606. Determination of small amounts of vanadium in aluminium and clay. L. Erdey, K. McVigh and L. Mázor (*Acta Chim. Hung.* 1984, 8 [2-4], 269-270).—The Hungarian standard method for the determination of V in smelter Al and Al alloys, which consists in preparing, in an acid solution a yellow-coloured complex of vanadium molybdophosphate and measuring its extinction value, is improved in sensitivity by  $\approx 12$  per cent., by altering the composition of the acid mixture to  $H_3PO_4$  (d 1.7, 300 ml) and  $H_2SO_4$  (d 1.8, 100 ml) per litre. The improved method is suitable for the determination of V in smelter Al, but not for V in clay. The diphenylamine method, the 8-hydroxyquinoline-sulphonic acid process and the 8-hydroxyquinoline method cannot be used for the determination of V in smelter Al or in clay. Enrichment by Na diethylthiocarbamate is an advantage for the determination of V in clay. The HCl solution of processed alumina is adjusted to  $\approx 3.0$  pH; a V - diethylthiocarbamate complex is prepared in this solution and extracted by chloroform. The complex is decomposed by a mixture of  $HNO_3$  and  $H_2O_2$ , and the V salt liberated is transferred to an aq. phase. The solution of V salt

obtained by the enriching process is evaporated to dryness. Thus the excess of acid is removed, and it may be possible to dissolve the V salt in a vol. appropriate to the quantity of V present. Colorimetric determination of V is then effected as vanadium molybdophosphate or tungstophosphate or, if Ti is absent, as a peroxo - vanadium complex.  
H. WARR

*Handwritten initials/signature*

# HUNG :

ERDEY, L.

621. Rapid photometric method for the determination of small amounts of chromium in metallic aluminium. 1. Erdy and L. Inezky (*Acta Chim. Hung.*, 1954, 4 [2-4], 289-301).—Metallic Al (1 g), water (50 pt.), conc.  $H_2SO_4$  (3 pt.), conc.  $H_3PO_4$  (1 pt.) and 0.5 per cent.  $HgSO_4$  (3 ml) are placed in a 200-ml Erlenmeyer flask covered with a small funnel. When the reaction slackens, the flask is heated on a water-bath until solution is complete. The solution is evaporated to a syrup which is warmed with water until a clear solution is obtained; a slow stream of  $H_2S$  is passed through the clear solution for  $\approx 10$  min. The solution is kept covered for some time, then boiled, cooled, made up to 100 ml with water and filtered through a dry hardened paper. Fifty ml of the filtrate are boiled for 10 to 15 min. after the addition of 1 per cent.  $AgNO_3$  (1 ml) and 5 per cent.  $(NH_4)_2S_2O_8$  (4 ml), and the hot solution is treated with a few crystals of  $NaNO_2$  to destroy any  $HMnO_4$  that may have formed. The cooled solution is washed, with as little water as possible, into a 60-ml flask, treated with freshly prepared 0.25 per cent. diphenylcarbazide in aq. acetone (1 + 1) and measured.

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M. J. J.

within 2 to 3 min. in a Pulfrich photometer using an S83 filter. Distilled water serves as the comparison solution. The calibration curve is made by use of a weakly acidic ( $H_2SO_4$ ) solution of  $Cr_2(SO_4)_3$  containing 0.01 g of Cr. Increasing amounts (0 to 3 ml) of this solution are treated with 1 g of spectroscopically pure Al and the extinction is determined. When the Cr content is as low as 0.001 per cent., the error still does not exceed  $\pm 3$  per cent. Under suitable conditions, solution in alkali can be used, when Cr is obtained quantitatively from the ppt. and can be subsequently determined colorimetrically.  
H. WARREN

*R. E. Day*  
*2/7*

ERDEY, L.

HUNG

837. Determination of iron contamination in noble metals. L. Erdely and E. Bányai (*Acta Chim. Hung.*, 1954, ~~4~~ 1954, 319-324).—Platinum or gold (0.5 g) is dissolved in aqua regia (20 ml) and evaporated to a syrup with conc. HCl (2 ml) soln. and then to dryness, after the addition of NaCl (2 g) and conc. HCl (6 ml). Evaporation to dryness is repeated after the addition of conc. HCl soln. (2 ml). The dry residue is moistened with sufficient conc. HCl to make the solution  $\approx 0.1 N$  with respect to HCl when diluted to 100 ml with water. The salt residue is heated at 100° C with a little water until solution is complete and the filtered solution is made up to 100 ml. An aliquot portion, the size of which depends on the expected Fe content, is passed rapidly through a cadmium reductor which is washed repeatedly with water, the washings passing into a 100-ml flask. Either 10 ml of 10 per cent. thioglycolic acid and 10 ml of 10 per cent. aq. NH<sub>3</sub> soln. are added and the solution is made up to 100 ml and the extinction determined with use of an S53 filter, or 5 ml of 40 per cent. sulphosalicylic acid and 20 ml of aq. NH<sub>3</sub> soln. (d 0.88) are added, and the solution is made up to 100 ml and observed with the use of an S47 filter. In both cases blank tests are carried out with all the reagents. Up to 0.1 per cent. of Fe in Pt metals can be determined with an error of  $\pm 5$  per cent., or  $\pm 10$  per cent. with an Fe content of 0.1 to 0.01 per cent. Cadmium ions do not interfere. With Ag alloys, reduction is superfluous if the Fe determination is made with sulphosalicylic acid in ammoniacal solution.

H. WREN ]



ERDEY, L.

HUNG:

✓ 782. Determination of iron dissolved in water by ascorbic acid. L. Erdey and E. Szabadvary (Acta Chim. Hung., 1967, 4 [2-4], 325-333).—A

flask of known vol. is filled with water. With a pipette, 2 ml of aq. NaOH (1 pt. NaOH and 2 pt. H<sub>2</sub>O) are brought into the bottom of the flask, followed by 2 ml of 20 per cent. (NH<sub>4</sub>)<sub>2</sub>Fe(SO<sub>4</sub>)<sub>6</sub>, which has been reduced by Cd or Fe powder. (If the solution has not been reduced, a blank determination of Fe<sup>+++</sup> with ascorbic acid is necessary; this titre must be deducted from the vol. of the acid used in the final titration.) The flask is closed with a moistened glass stopper, shaken and shielded from the air until the pptd. iron hydroxide has subsided. The ppt. is then dissolved in 5 ml of dil. HCl (3 + 1) or 20 ml of 25 per cent. NaHSO<sub>3</sub>, introduced by a pipette. The solid indicator mixture (2 to 3 mg of a mixture of 1 part of Variamine blue and 9 parts of NaCl) is added; the flask contents are warmed to 40° to 50° C and titrated with 0.01 N ascorbic acid until the violet colour disappears. Winkler's determination is modified by adding FeSO<sub>4</sub>, containing Mn to the oxidised solutions and titrating the resulting Fe<sup>+++</sup> with ascorbic acid, or by adding a known amount of ascorbic acid and determining the excess with FeCl<sub>3</sub>. The first procedure is accurate but not the second.

H. WARR

ERDEY, LASZLO

UNG.

Spectrochemical method for the elimination of the interfering effect of cyanogen bands. Laszlo Erdely and Bruno Gergus (Tech. Univ., Budapest), *Acta Chim. Acad. Sci. Hung.* 5, 43-63 (1954) (in German) (English summary).—The use of the C electrode in spectrographic work is frequently limited by the appearance of strong cyanogen bands in the region 3300-4600 Å. The use of  $K_2S_2O_8$  or  $KBrO_3$  is suggested to reduce the arc temp. and to promote an oxidizing atm. In addn., the use of the interrupted arc is recommended. Under these conditions, the interference of the CN bands is largely eliminated. Qualitatively, the method is useful in the examn. of the rare earths; in  $Al(OH)_3$  contg. Fe, Pb, and Mo; and in  $CaCO_3$  contg. traces of Sr and Ba. Quantitatively, the method is applicable to the detn. of Cr, Pb, and Fe in NaCl in the concn. range 0.001-1.0%, 0.003-3.0%, and 0.001-1.0%, resp. In both qual. and quant. studies, lines occurring in the cyanogen band region are used. G. Dragt

AL 82

László Erdely, LASZLO,

HUNG.

Colorimetric determination of phosphate. László Erdely, Václav Klenz, and Endre Bodor (Tech. Univ., Budapest). *Acta Chim. Acad. Sci. Hung.* 5, 65-80 (1954) (in German).  
A detailed study is reported on the use of ascorbic acid as a reducing agent in the analysis of phosphates by the phosphomolybdate system. Transfer 10 ml. of the phosphate soln. to a 50-ml. volumetric flask, acidify with 20 ml. of  $N H_2SO_4$  (pH 0.2-0.5), add 5 ml. of 2% ammonium molybdate soln. and 10 ml. of 0.1N ascorbic acid. Dil. to the mark, allow to stand 15 min. for color development and measure the optical d. The method is applicable to the detn. of  $P_2O_5$  in alumina. The procedure is: Fuse the sample (0.5 g.) with 2.5 g. of  $Na_2SO_4:H_2BO_3$  (1:1) mixt., leach, and dissolve in 30 ml. of  $H_2O$  and 13.5 ml. of 4N  $H_2SO_4$ . Add 25 ml. more of 4N  $H_2SO_4$ . Transfer the soln. to a 100-ml. volumetric flask and dil. to the mark. Transfer a 20-ml. aliquot to a 50-ml. flask, and add 10 ml. of water. The detn. is continued as described above. The results indicate that  $SiO_2$  in amts. normally encountered in alumina does not interfere. The method is useful in the range 0.01%-0.1%  $P_2O_5$  with a max. error of 0.005%.  
G. Dragt.

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ERDEY, L.

HUNG.

Determination of the phosphorus content of silicate rocks. V. Fleps, B. Simó and L. Erdey (*Atta Chim. Hung.*, 1954, 5, 81-89).—The MB blue method for determining phosphate using ascorbic acid (see col. 744 *supra*) is applied to silicate rocks. Al, Fe, Mn, Mg, Ca, Na and K do not interfere. The powdered sample is initially treated with HNO<sub>3</sub> and HF, and the aq. extract is filtered to remove insoluble sulphates, CaF<sub>2</sub>, and residual silica. Results are given for a number of Hungarian rocks; these agree well with simultaneous gravimetric determinations as ammonium phosphomolybdate and as Mg<sub>3</sub>(PO<sub>4</sub>)<sub>2</sub>. The colorimetric method takes 9 hours less than the gravimetric procedure.

A. B. DENHAM

ERDEY, L.

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# HUNG.

✓ Colorimetric determination of silver with dithizone. L. Erdely, G. Rády and V. Fléps (*Acta chim. hung.*, 1954, 5, 132-133).  
Dithizone can be used for the determination of 10<sup>-4</sup>% of Ag in the presence of great excess of Cu, Bi, Cd, Zn or Pb, if Hg and Cl are both absent, by using Na ethylenediaminetetra-acetate and maintaining the pH between 4 and 5. For colorimetric analysis 1-50 ml. of solution, containing 2-100 µg. of Ag and ten times the wt. of Complexone are required to sequester the other metals, and mixed with 80 ml. of 20% Na acetate and 10 ml. of 20% acetic acid. The whole is extracted with successive small vol. of carefully purified dithizone in CCl<sub>4</sub>, until the green colour of the latter remains unaltered. The extract is shaken several times with 1 in 1,000 aq. NH<sub>3</sub> and made up to 20 ml. The absorbance is then measured with a Palfrich colorimeter using an S50 filter. Alternatively a more dil. solution of dithizone (1 ml. = 1 µg. Ag) can be measured out from a burette, and the end-point determined when the last 0.2 ml. used for extraction remains green. A. B. DENSHAM.

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LASZLO, Erdey

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1225: • (The Determination of Chromium Traces in Metallic Aluminum.) Kadmium-tracek meghatározása fém alumíniumban. László Erdey and János Inczédy, *Kohászati Lapok*, v. 9, no. 5, May 1964, p. 233-240.  
Rapid method for continuous industrial tests based on photometry, after acid or base dissolution. Tables. 29 ref.

Feby 1.

**A Determination of oxygen dissolved in water by means of ascorbic acid** - *Winkler, L. and C. Schindler*  
*Journal of Hydrology* - *International Edition* Vol. 31, 1954, No. 1-2, pp. 8-11, 2 figs., 2 tabs.

Oxygen dissolved in water was determined by filling a flask of known volume with the water to be tested. By means of a long pipette thin layers of an iron(III)-free iron(II) ammonium sulfate solution and a sodium hydroxide solution were measured at the bottom of the flask. The iron(II) solution was made iron(III)-free by passing it through a Cd-reductor pipette or by shaking with iron powder. Iron(III) formed by the action of the dissolved oxygen -- after shaking, settling and acidification -- was titrated with an 0.01 N ascorbic acid measuring solution in the presence of 4-amino-4'-methoxy-diphenylamine as an indicator. Winkler's method of oxygen determination may also be modified by adding iron(II) ammonium sulfate instead of potassium iodide to the oxidized manganese solution, and by titration with ascorbic acid.

ERD6X, L

14. Determination of small amounts of vanadium in aluminum and alumina -- *Kiskenyiségi vándium meghatározása alumíniumban és tiszta alumina-ban* -- L. Fekete, S. M. Vigh and L. Mészáros (Hungarian Journal of Chemistry -- *Magyar Kémiai Folyóirat* -- Vol. 60, 1954, No. 3, pp. 79-84, 5 tabs.)

The standard colorimetric method for the evaluation of the yellow vanadium phosphomolybdate complex was reinvestigated and it was found that by decreasing the quantity of the phosphoric acid used the sensitivity of the method was increased. Different methods using diphenylamine, 8-hydroxyquinoline sulfonic acid or 8-hydroxyquinoline were found unsatisfactory. Since the standard method for the determination of vanadium proved to be inadequate in the case of alumina a new procedure was evolved for the extraction and concentration of vanadium from the solutions of alumina or aluminum by the use of sodium diethyl dithiocarbamate. The formed vanadium complex is first extracted with chloroform, then decomposed with nitric acid and hydrogen peroxide, and finally the liberated vanadium salt is transferred into an aqueous phase. After this isolation and concentration vanadium is determined in the aqueous solution by the classical methods. The vanadium complex is formed optimally at pH 3.

67



ERDEY, L

55. Determination of the phosphorus content of silicate rocks ... Szilárdok közeli hozzátartozóinak megkötésére ... V. Fieps, H. Simó and L. Erdely. (Hungarian Journal of Chemistry - Magyar Kémiai Folyóirat) - Vol. 60, 1954, No. 3, pp. 89-93, 2 tabs.)

The purpose of these investigations was to find a colorimetric method for the determination of phosphorus in silicate rocks which takes less time than the classical gravimetric procedure. No satisfactory solution to the problem was reached by the reduction of the phosphomolybdate complex by stannous chloride, hydroquinone or metallic molybdenum in this special case. The essentials of the new procedure are: the digestion and the preparation of the stock solution from a 1 g sample was carried out by the Dittler method, from 0.05 to 0.1 g samples with some modifications according to the method described by Allmarin and Sheskokskaya. The stock solution should be diluted if necessary. A portion of 10 ml of this stock solution (containing 25-250 µg of phosphorus pentoxide) is transferred into a graduated volumetric flask of 50 ml capacity, 20 ml of N-sulfuric acid, 3 ml of a 2% ammonium molybdate solution and 10 ml of a 0.1 N-ascorbic acid solution are added, filled up to volume and mixed. After standing for 15 minutes readings are taken with a Pulfrich-type colorimeter using an S 72 colour filter. The method saves time and chemicals, the values are in good agreement with the results obtained by gravimetric determinations.

HUNG.

11. Colorimetric determination of small amounts of silver by dithizone -- L. Erdos, Gy. Rády, T. Plep. (Magyar Kémiai Folyóirat -- Vol. 60, 1954, No. 7, pp. 193-196, 1 fig., 6 tabs.)

A method is given for the colorimetric and volumetric determination of small amounts of silver (2 to 100 µg). A sodium acetate-acetic acid buffer solution (pH 4-5) and a complexon III solution are added to the sample containing silver. After the introduction of a small amount of sulphuric acid it is mixed with dithizone in a carbon tetrachloride solution. The yellow silver dithizonate complex dissolves in the carbon tetrachloride phase. The dithizone solution is added to the mixture until the reagent retains its original green colour. The excess dithizone is extracted from the collected carbon tetrachloride solution with ammonium hydroxide and the dissolved silver dithizonate is determined by colorimetric measurement using a Perkin photometer with an 850 colour filter. The volumetric determination is carried out in analogy. A standardized dithizone solution is added to the sample until the solution retains its original colour. The concentration of silver is calculated from the amount of ml used for titration. Complexon III is added to the samples for the masking of interfering ions. Through this technique silver can be determined with an error of  $\pm 0.2\%$  even in the presence of a 100,000-fold quantity of copper, bismuth, cadmium or lead. This rapid and convenient method does not require high purity reagents or solvents free of heavy metal contaminants.

Erdey, L.

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4-amino-4'-methoxy-diphenylamine as a colorimetric reagent. I. Determination of iron(III) ions --  
 Erdey, L. Szabadvary. (Magyar Kémiai Folyóirat) Vol. 60, 1954, No. 10, pp. 311-316, 4 figs., 3 tabs.)

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 O The 4-amino-4'-methoxy-diphenylamine compound is transformed into a blue-colored product in the presence of oxidizing ions. This colour reaction was employed for the determination of iron(III) ions. It was found that an inexpensive textile dyestuff, Variamin blue B, produced on an industrial scale was suitable as a reagent. The method proved to be useful for the determination of 0.2 to 12.0 µg/ml iron(III) in the pH range of 1 to 4. In the presence of other oxidizing ions yielding a blue colour reaction with the reagent, first the total extinction of the solution was measured and subsequently the measurement was repeated after the addition of sodium citrate. The difference between the two values obtained corresponded to the extinction of the iron(III) ions.

12 82

ERDEY

**Differential thermogravimetry.** L. Erdey, P. Faulk, and J. Pank. *Tech. Univ. Budapest, Nature* 174, 885-6 (1954).—The deriv. of the thermogravimetric curve is obtained by measuring the current produced by the displacement of a permanent magnet attached to the beam of a thermobalance. Curves are plotted for gibbsite and Zn anthranilate and compared to the curves for differential thermal analysis and thermogravimetric analysis. The advantages of differential-thermogravimetric analysis are outlined. A similar method described by de Keyser (C.I. 48, 309c) gives a ratio of finite increments rather than a deriv.  
B. P. Block

ERDEY, L

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HUNG

✓ 2012. Ascorbic acid and Variamine blue in iodimetric determinations. L. Erdely, E. Bodor and M. Pápay (Acta Chim. Hung., 1966, 8 [3-4], 235-264).—Ascorbic acid (0.1 N) as the reducing titrant and Variamine blue (4-amino-4'-methoxydiphenylamine) as the redox indicator were compared with 0.1 N Na<sub>2</sub>S<sub>2</sub>O<sub>4</sub> and starch in a number of iodimetric determinations. Satisfactory results were obtained in the majority of cases. S.C.I. Absrr.

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ERDEY, LASZLO

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Determination of the rare earth group. Laszlo Erdy, Laszlo Kélmán, and Antal Almásy. Magyar Tudományos Akad. Kém. Tudományok Osztályának Közleményei 3, 443-51 (1958); Acta chim. Acad. Sci. Hung. 6, 173-82 (1955) (in English).—Rare earth metals are detd. as a group, even in the presence of large quantities (1:5) of phosphate by (1) sepg. the latter with  $(\text{NH}_4)_2\text{MoO}_4$ , (2) pptg. the rare earths with  $\text{NH}_4\text{OH}$ , (3) dissolving the hydroxides in acid, (4) sepg. the group with  $\text{H}_2\text{C}_2\text{O}_4$ , and (5) igniting the oxalates to oxides. A. Elk

ERDEY, L.

ERDEY, L.; PAULIK, F.

Thermic investigation of precipitations. Pt. 1. Metal oxalate precipitates.  
Pt. 2. Aluminum hydroxide precipitates. p. 461. KOZLEMENYEI. Budapest.  
Vol. 5, no. 4, 1955.

SOURCE: East European Accessions List (EEAL), LC, Vol. 5, No. 2, Feb. 1956

Erdey, László

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✓ Kinetic data on the decomposition of hydrogen peroxide in an alkaline medium. László Erdey and János Inczédy (Budapest Inst. Technol.). *Magyar Tudományos Akad. Kém. Tudományok Osztályának Közleményei* 6, 513-51 (1955). The decompn. rate of  $H_2O_2$  was studied as a function of pH (in buffered solns.), temp., and glass area of the vessel. The postulated mechanism involves decompn. of a  $H_2O_2\cdot QOH^-$  transition ion on the wall of the vessel. At const. temp. and wall area, independent of the kind of glass, the rate increases with pH to a max., where  $pH = -\log K = 13$  ( $K =$  disocn. const. of  $H_2O_2$ ), then decreases. At this pH the reaction is of the 2nd order, whereas at other pH values it is of a fractional order. The activation energy (20,000 cal./mol.), detd. at  $pH = 12$ , at different temps. is independent of wall area. The frequency factor in the Arrhenius equation is a function of wall area. The decompn. rate is directly proportional to wall area below pH 12, and proportional to the square root of the surface ratio above pH 12. At all pH values the rate extrapolated to zero wall area becomes zero; this indicates that the transition ion decomp. exclusively on the wall. A period of induction was noted for the reaction. Also in *Acta. Chim. Acad. Sci. Hung.* 7, No. 1-2, 93-115 (1955) (in German) (English summary).  
Ludwig Luft

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11. Oxidation-reduction titrations with luminescent indicators, I-V (in German) — L. Erdey, L. Buzas. (Acta Chimica Academiae Scientiarum Hungaricae — Vol. 9, 1953, No. 1-2, pp. 77-130, 3 figs., 27 tabs.)

Hypohalogenites, potassium cyanoferrate(III) and arsenite ions and by an indirect method chromium(III) ions were measured by using a standard solution of hydrogen peroxide in the presence of lucigenine (dimethyl diacetyllylthium nitrate) indicator. Arsenic(III), antimony(III), sulphite, sulphide, thiosulphate, cyanide and thiocyanate were measured by means of sodium hypobromite standard solution in the presence of luminol (3-aminophthalic hydrazide) indicator substance. Arsenite, antimonite, thiosulphate and hydrazine sulphate were determined with an alkali hypochlorite solution as titrant using luminol indicator in alkaline media. Hypochlorites and hypobromites were measured selectively, even in the presence of halogenites and halogenates, in alkaline media by means of an arsenite measuring solution and luminol chemiluminescent indicator. By employing hydrazine sulphate solution as titrant the hypochlorites and hypobromites are easily reduced in alkaline media. The interaction of excess titrant and lucigenine indicator in the presence of air produces chemiluminescence, marking the end point, suitable for quantitative determination.

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ERDEY. L.

12. Colorimetric method for the determination of iron with 4-amino-4'-methoxy-diphenylamine (In German)  
 L. ERDEY, P. SZABADVÁRY, (Acta Chimica Academiae Scientiarum Hungaricae — Vol. 6, 1955, No. 1--2, pp. 131—142, 4 figs., 3 tabs.)

In the presence of oxidizing ions 4-amino-4'-methoxy-diphenylamine is transformed into a blue-coloured compound. This colour reaction was found suitable for the colorimetric determination of iron(III) ions. Variamine blue B base, an inexpensive and easily procurable dyestuff used in the textile industry, was employed as reagent. By this method 0.02—12.0 mg iron(III) per kg was determined with sufficient accuracy in the pH range between 1 and 4. If other oxidizing substances

forming coloured products with the reagent are present then first the total extinction of the solution should be determined and, subsequently, eliminating the absorption due to the iron(III) ions by the addition of sodium citrate solution, the extinction should be measured for the second time. The difference between the two readings yields the extinction value due to the iron(III) ions. The new procedure has been successfully used for the analysis of different alloys.

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ERDEY. L.

14. Determination of the group of rare earth metals (in English) — L. Erdely, L. Kálmán, A. Al-másy. (*Acta Chemica Academiae Scientiarum Hungaricae* — Vol. 6, 1953, No. 1—2, pp. 173—182, 5 figs., 3 tabs.) [1]

Rare earth metals were determined in the presence of large amounts (1 : 5) of phosphate by first precipitating the phosphates by means of ammonium molybdate and then precipitating the rare earth elements in the filtrate obtained by the addition of ammonium hydroxide. This precipitate was dissolved, the metals were re-precipitated with oxalic acid, filtered off and finally ignited at 1000°C. The group of rare earth metals may be determined by this procedure with an error of about 1%. The method was found especially suitable for the analysis of the by-products obtained in the processing of *Kola* apatites in which the accumulated rare earth elements amounted to 10% in the presence of 90% phosphate. Excess oxygen contained in the rare earth metal oxides after ignition was determined by Bunsen's iodometric method using a Bunsen apparatus specially modified for this purpose.

PM

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ERDEY, LASZLO

✓ Ascorbimetric determination of mercuric ions. ~~LASZLO~~  
Erdey and Mrs. Lajos Erdey (Miskolc, Hungary). ~~Erdey and~~  
~~Erdey and Mrs. Lajos Erdey~~ Akad. Kém. Tudományok  
Országos Közleményei 6, 395-401(1955).—The standard  
soln. of ascorbic acid reduces  $Hg^{++}$  to  $Hg$ . Reduction is  
finished with respective speed in 3 sec soln. The end  
point is established with varianin blue indicator at opti-  
mum pH. The method was adapted to the detn. of  $Hg$   
compds. contg. Cl. Walter Wagner